softer and do not have the tendency to break into large pieces or blocks as do the sediments in the Monmouth formation.

The thickness of the Paleocene sediments appears to be extremely variable in the outcrop area. Their thickness at locations A, C, and D probably is about 8 to 10 feet, but at other places along the line of outcrop Paleocene sediments are absent and the Aquia greensand directly overlies the Monmouth formation. For example, Paleocene sediments are absent in the first creek directly west of location A in Fig. 1.

Although the Paleocene sediments do not crop out as a continuous band, examination of drill cuttings and Foraminifera from water wells shows that this unit occurs over a wide area in the subsurface in southern Maryland, where it commonly attains a thickness of 50 to 75 feet.

Inasmuch as this section of Paleocene sediments occurs over a large area, is unconformable with the Eocene and Cretaceous sediments, and constitutes a mappable unit, it seems desirable to give it formational rank. The name Brightseat formation is here proposed for this unit, and the exposure designated by location A in Fig. 1, 1 mile west-southwest of Brightseat, Md., is considered the type locality.

PALEONTOLOGY.—*Nomenclatural notes on carditids and lucinids.* A. CHAVAN, Thoiry (Ain), France. (Communicated by Julia Gardner.)

The revision[1] of several superfamilies, among which Carditacea and Lucinacea are, perhaps, the most puzzling and complex, led the writer to a re-examination of important nome clatural points. Types of common genera, like *Cardita*, *Jagonia*, *Lucina*, or *Diplodonta* (*Taras* of most authors), are still under discussion, and conclusions according with the Rules are not universally accepted. The present paper deals with such problems and reviews, when necessary, points settled in the previous papers.

The conclusions here adopted not only follow the International Rules of Nomenclature in accepting the first unquestionable type-designation for a genus, and in rejecting those wrongly introduced, but they also succeed in saving well-known names, such as *Diplodonta*. It is, therefore, hoped that the International Commission of Zoological Nomenclature will soon place on the Official List the common names here discussed with the type species adopted in accordance with a strict interpretation of the Rules.

CARDITA, CARDITES, ARCINELLA, MYTILICARDIA

Two species are under discussion for the type of *Cardita* Bruguière, 1792 (Encycl. Method. **1:** 401–413): *Cardita sulcata* Bruguière = *Chama antiquata* Linné and *Cardita calyculata* Bruguière = *Chama calyculata* Linné.

In 1799 Lamarck listed *C. calyculata* Linné under *Cardita*; however, according to the Rules, Lamarck's citations of 1799 are not designations, but only examples, as noted by Lamarck himself. In 1801, the same author cited the related species *variegata*, and this, again, is not a type-designation. In 1817, Schumacher distinguished two groups: the "cordiformes" (α) and the "trapeziformes" (β), and cited *sulcata* and *calyculata* as representatives. The first real designation to be discussed is that of Schmidt (Versuch Conch. Samml.: 63. 1818) of *Chama calyculata* as the type of *Cardita* Lamarck, and of *antiquata* as the type of *Cardita* Megerle von Mühlfeld (who used *Cardita* in 1811 without selecting its type). But *Cardita* is of Bruguière, not of Lamarck or of Megerle von Mühlfeld; and as both these species are available for the type, Schmidt's designation of the two of them invalidates both (Stewart, R. B., Proc. Acad. Nat. Sci. Philadelphia, Spec. Publ. 3: 149. 1930). Winckworth (Proc. Malac. Soc. **26** (pt. 1): 23. 1944) has also pointed out that Schmidt's designations are referable only to the authors quoted by him.

Children's designation (Lamarck's *Genera of shells:* 43, pl. 6, fig. 60. 1822) of *Cardita antiquata* = *sulcata* is commonly accepted, and Stewart has recognized it, but Children's designations apply only to Larmarck's genera, so that *Chama antiquata* may be the designated type of *Cardita* Lamarck, but not *ipso facto* of *Cardita* Bruguière. Children makes no reference to Bruguière but

[1] As a contribution to the "Treatise of Invertebrate Paleontology."

refers only to "Hist. Nat. des Animaux sans Vertèbres, 1802–1806," so that his selection is not applicable even to *Lucina* Lamarck of 1799 or of 1801.

The next designation was that by Anton (Verz. Conch.: 10. 1839) of *Cardita calyculata* Gmelin not of Bruguière as the type of *Cardita* "Lamarck, Desh." Gray (Proc. Zool. Soc. London **15:** 193–194. 1847) was the first author to refer to *Cardita* Bruguière; he designated *Chama calyculata* as the type of *Cardita* Bruguière, 1789 (error for 1792), and also of *Cardita* Lamarck, 1801; *Cardita* Schumacher, 1817; and *Chama* sp. Linné.

Cardita Bruguière, 1792 (type by subsequent designation, Gray, 1847): *Chama calyculata* Linné is totally distinct from *Venericardia* Lamarck, while *Cardita* "Lamarck" corresponds partly to *Cardita* Bruguière and partly to *Cardita* Megerle von Mühlfeld, 1811 (type by subsequent designation, Schmidt, 1818): *C. antiquata* Linné, Schmidt's designation for *Cardita* Megerle von Mühlfeld, antedates that of Children for *Cardita* Lamarck, and applies to the same group. Both names are homonyms of *Cardita* and, therefore, synonyms of *Cardites* Link, 1807 (Besch. Rostock Samml.: 153) (type by monotypy): *Chama antiquata* Linné, the first valid name for this group, which is related subgenerically to *Venericardia* Lamarck, 1801.

Arcinella Oken, 1815 (Lehrb. Zool.: 238), type by subsequent designation, Stewart, 1930: *Chama calyculata* Linné is a synonym of *Cardita* Bruguière.

Authors like Schmidt and Gray not only designated a type or example, but also recognized, after Schumacher, that two groups were confused under the name *Cardita* and agreed in regarding the "trapeziformes" as typical and the "cordiformes" as atypical, so that the interpretation here offered is in total accord with the original meaning of *Cardita*.

Chama sulcata Solander, 1766, is a small *Venericardia* "s. l." (after Stewart) and does not invalidate *Cardita sulcata* Bruguière. Therefore *Cardita sulcata* Bruguière is a specific homonym, and this type species of *Cardites* must be named *Venericardia* (*Cardites*) *antiquata* (Lin.) pars = *sulcata* (Brug., non Sol.). *Antiquata* is a somewhat doubtful name, which has been reserved by Poli for the Mediterranean form.

"*Mytilicardia*" is the Latinization of a vernacular name, "les *Mytilicardes*", published in Blainville (1824) with two examples: *Cardita crassicosta* and *C. calyculata*. Agassiz has cited it without species in the Latin form "*Mytilicardia*" (Nomenclator: 704. 1847). Herrmannsen's designation (Index **2:** 85. 1847) of *Cardita jeson* Adanson (= *senegalensis* Reeve) accords with Blainville's view that "*Perna*" *jeson* was identical with *C. crassicosta* Lamarck. These species are, in fact, distinct, and "le Jeson" = *Cardita senegalensis* represents a subgenus of *Cardita* Bruguière with the anterior part of tooth 3b obliquely directed backwards: it has been designated the type of *Jesonia* Gray, 1840, by Gray 1847.

The earliest valid Latinization of "les *Mytilicardes*", and prior to that of Agassiz and Herrmannsen, is that of Anton, 1839 (*op. cit.*)[2] under the spelling "*Mytilicardita.*" The type is *C. calyculata*, as quoted by Gray, 1847, so that *Mytilicardita* falls in the synonymy of *Cardita* Bruguière.

The usual spelling "*Mytilicardia*" Blainville is used in Tryon, 1872.

All the above cited uses intending to give a Latinization of the same vernacular term, and the first of them, *Mytilicardita*, being a synonym of *Cardita*, *Mytilocardia*, without species, has no status, and *Mytilicardia* falls also in the synonymy of *Cardita*, Herrmannsen's designation referring to a species which proves to be different from the two included in the original list. So that *Jesonia* Gray, n. n., according to Sherborn, is available for the *senegalensis* group, while *Actinobolus* "Klein" Mörch, 1853, of which the type is *C. sulcata* = *antiquata*, is to be listed in the synonymy of *Cardites*.

PSEUDOCARDIA, VETOCARDIA, VETERICARDIA

Pseudocardia Conrad, 1866 (Amer. Journ. Conch. **2:** 103) was a heterogeneous unit, including true carditids, among them *Venericardia dupiniana* d'Orbigny and species of cardiid affinities, such as *Cardium haueri* Hoernes which is a Limnocardiid, and for that reason Fischer, 1887 (Manuel de Conchyliologie, p. 1039), placed *Pseudocardia* pars, in the synonymy of *Limnocardium*. Thirteen unlike species are listed by Conrad under *Pseudocardia;* the first one is cited as "*C. Smidti* Horn.", apparently an error for *Cardium schmidti* Hoernes.

Three years after, Conrad (*ibid.* **4:** 246) re-

[2] The *C. calyculata* of both Anton and Gray seems to include more than one species.

placed *Pseudocardia* by *Vetocardia*, because of the prior use of *Pseudocardium* Gabb, 1866 (not 1869, as indicated in Neave). According to the present Rules, *Pseudocardium* does not invalidate *Pseudocardia*. This substitution of name in Conrad's paper (1868, publ. Feb. 4, 1869) is not accompanied by a citation of species, so that, in February 1869, *Vetocardia-Pseudocardia* was still a doubtful unit, ill-characterized and without type-designation.

But in July, 1869 (*ibid.* **5:** 43) Conrad redefined his genus and cited under it a single species (p. 48), *Vetocardia crenalirata*, which was not included under *Pseudocardia* in 1866. In 1872 Conrad replaced *Vetocardia* because "this genus was improperly printed" by *Vetericardia* (Proc. Acad. Nat. Sci. Philadelphia 1872: 52) and cited two species, *V. crenalirata* and *V. dupiniana*.

Stoliczka, in his discussion of *Palaeocardita* on page 280, writes: "I believe that to this genus should be referred a great number of Cretaceous Carditacea of the type of *C. dupiniana* d'Orbigny." Before the introduction of *Vetericardia*, in 1872, but after the publication of the monotypic *Vetocardia* in 1869, Stoliczka (Cret. Fauna South Ind., *Pal. Ind.* 1871, Lamell, p. 283) discussed the affinities of *Pseudocardia-Vetocardia* and wrote "Conrad called some of the Cretaceous species at first *Pseudocardia* for which name he subsequently substituted *Vetocardia* as the type of which *Venericardia dupiniana* d'Orb. can fairly be taken."

Eames[3], after Cox (Proc. Malac. Soc. London **27**(1): 37. 1946), has recently accepted Stoliczka's statement as a valid designation, but I think it is a very questionable one.

First, such a "designation" is unusual in Stoliczka's work, for he clearly writes: "Type: . . .", when intending to designate a species. "Can fairly be taken," translated into French, appears to be more a suggestion than a selection. Stoliczka's English seems a little ambiguous and when translated into French is even more difficult to understand clearly, for on the same page Stoliczka writes that the genus has no signification, and is probably a synonym of *Palaeocardita*. It is evident that Stoliczka intended only to suggest, rather than to designate, a characteristic species while awaiting a restudy and careful comparisons of a difficult group.

Another very important argument is that Stoliczka overlooked the redefinition of *Vetocardia* and did not realize that its use with a single species not previously cited under *Pseudocardia* necessitated either the recognition of two distinct units, with a type to be selected for *Pseudocardia* and *crenalirata* for *Vetocardia* of July 1869; or, according to Conrad's indication that *Vetocardia* was a substitute, the selection of the species for which this term was used, its redefinition preventing the use of any of the very different forms cited in 1866. But Stoliczka's "designation," being common to two names, of which the former is heterogeneous and the latter, proposed "in replacment," but used for a single species not previously cited, cannot be accepted. No designation has yet been given for *Pseudocardia* or for *Vetocardia* (Eames only accepts Stoliczka's writing), but in 1941 Stephenson (Univ. Texas Publ., Bull. 4101: 175) designated "*Astarte crenalirata* Conrad" as the type of *Vetericardia* Conrad, 1872, and, according to the Rules, this applies *ipso facto* to *Vetocardia* of July 1869, used for the same species and mentioned by Stephenson. So that *Vetericardia* Conrad, 1872 (= *Vetocardia* Conrad, July, non February 1869), can validly be used with *Astarte crenalirata* as its type. It is impossible to design another species and to reject both *Vetericardia* and *Vetocardia* of July 1869 into the synonymy of *Pseudocardia*, since, despite Conrad's indication, they apply to a redefined unit, which was used for a single species, which was not listed either under *Pseudocardia* or *Vetocardia* of February 1869. But as *Pseudocardia* is totally heterogeneous and remains without selected type, for Stoliczka's "designation" applying to both names is valueless. I hereby designate "*Cardium Smidti*" Horn as the type of *Pseudocardia*, the first species listed by Conrad, 1866 (*op. cit.*).

In a recent paper[4], I have proposed the genus *Ludbrookia* Chavan, 1951, type (o.d.): *Venericardia dupiniana* d'Orbigny, because this species is, in fact, quite distinct from the *Vetericardia* stock as well as from *Venericardia*, with which Eames unites it (as a "*Pseudocardia*"). This was, probably, more advisable than to replace Stoliczka's wrong "designation" by a correct one of the same species for *Pseudocardia* only; *dupiniana* having been listed not only under this

[3] Eames, F. E., *A contribution to the study of the Eocene of western Pakistan*. Philos. Trans. Roy. Soc. London, ser. B, No. 627: 372. 1951.

[4] Chavan, A., *Dénominations supraspécifiques de mollusques modifiées ou nouvelles*. C. R. somm. S. G. F., 1951: 210–212.

heterogeneous term, but in 1872 under *Vetericardia* also, together with *crenalirata*, and recently under *Venericardia* by Eames (as "type" by Stoliczka of *Pseudocardia*).

I wish to point out that *Vetocardia* having been used twice by Conrad before its replacement, it seems difficult to follow this author when he says he intended to correct only a misprint.

The type is known as *crenalirata* Conrad, 1860. However, in July 1861, Isaac Lea included it in a checklist under the name *Astarte crenulirata* Conrad.

LUCINA

In a previous paper[5] I have discussed in full the status of *Lucina* Bruguière, 1798, and have accepted *Venus jamaicensis* Spengler as its type, following a number of authors, but disagreeing with Stewart's interpretation (*op. cit.*: 175–178). In a recent paper, Eames (*op. cit.*: 382) does not refer to Stewart but accepts, like him, *Venus pennsylvanica* Chemnitz, a species belonging to the well-known *Linga* de Gregorio, 1885, which, therefore, would fall in the synonymy of *Lucina*. Curiously enough, although adopting the same conclusion, Eames refers to Schmidt's designation (1818) rejected by Stewart, who refers to Anton's paper of 1839, as the first unquestionable designation for *Lucina* Bruguière.

A short historical restudy will find easily what species has been clearly and correctly designated as the type of Bruguière's genus, prior to any other unambiguous designation, and in total accordance with the Rules.

Lucina appears in Bruguière's Encyclopedy (Encycl. Math., Tab. Vers, pl. 284–286) at the top of three plates of shells (and not of only plate 284, as quoted by Eames). According to the Rules, the identification of the species figures by Bruguière being possible—and having been done by Dillwyn, 1817—*Lucina* is "a genus with an indication" and not a *nomen nudum* (as I had myself admitted) so that a valid type-designation must refer to Bruguière, and not to a subsequent worker.

The first generic diagnosis of *Lucina* is by Lamarck (1799), who cites a species (*Venus edentula*) disagreeing with it. But it has been ruled that Lamarck's citations of 1799 are only examples, as stated by himself—this one being inadequate—and not type-designations, so that *edentula* is fortunately not the monotype of a genus defined as having well-developed teeth. These conclusions are now generally accepted, and Eames has recently shown that *Anodontia* Link, 1807, was, as I had admitted, but in disagreement with Stewart's statement, the first valid generic name for "*Lucina*" *edentula* (see Gardner, 1951).

In 1801, Lamarck (Syst. Animaux sans Vert.: 124) gave a better example of *Lucina*, with *L. jamaicensis* as sole citation under this genus. After Lamarck, the meaning of such a citation is as follows: "Pour connaître d'une manière certaine les genres dont je donne ici les caractères, j'ai cité sous chacun d'eux une espèce connue ou très rarement, plusieurs." So that, although not a valid designation, this is a virtual one, giving, at least, Lamarck's choice in the selection of a typical form. Subsequent designations of *L. jamaicensis* by several authors, are therefore in total accordance with the original concept of the genus, while designations of *L. pennsylvanica* are not, this species having been excluded from the "Lucines" by Roissy (1805) and, apparently, by most revisers before the publication of Stewart's paper.

The first real type-designation is by Schumacher (1817), who selected *L. pennsylvanica*, but for *Lucina* Lamarck, without reference to Bruguière's work so that this designation has been rejected as not valid by Stewart and others.

The second one, accepted by Eames, is by Schmidt (1818), also *L. pennsylvanica*. Eames (*op. cit.*) accepted it on reference to Winckworth's opinion that Schmidt has really designated types for several genera, among them *Lucina*. But Winckworth has not discussed this particular designation, which is a questionable one, as pointed out by Stewart (*op. cit.*), who did not accept it. Although referring to Bruguière's genus, Schmidt has quoted plate 284 only (on which are several species figured) and, above all, he designated also *pennsylvanica* as the type of *Lucina* Lamarck, with an inexact reference to Chemnitz's figures of *jamaicensis*. Such a double and confused designation must be rejected, as already done by Stewart, but the pertinent objections were not discussed in Eames' paper; Eames says that Schmidt's designation seems to be "the earliest valid" one, referring only to

[5] Chavan, A., *Essai critique de classification Lucines. I.* Journ. Conchyl. **81:** 133–153. 1937.

Winckworth's general opinion on such selections by Schmidt.

The third is by Children (1823), and I had accepted it in my first paper (*op. cit.*). But Children referred only to Lamarck's *Lucina*, and his designation of *L. jamaicensis*, like that of *pennsylvanica* by Schumacher, deals only with *Lucina* Lamarck. Recent additions to the Rules do not permit the consideration of *Lucina* Bruguière as a *nomen nudum*, apart from its interpretation by Lamarck (which was possible when I wrote my first paper).

Anton's designation of *L. pennsylvanica* (1839) has been accepted by Stewart as the first valid one. It is the only one *Lucina* printed by Anton in small capitals. But, although indicating in his introduction that such a printing was reserved to generic typifications, Anton commonly used it also for subgenera. In the case of *Lucina*, four "groups" are recognized, instead of subgenera, the first species of each being printed in italics. This printing typifies them, as pointed out by Eames (*op. cit.*). *L. pennsylvanica* being also printed in italics ahead of the third group (c), is thus on the same rank that three other species, despite the fact it was also printed in small capitals when listed among the heterogeneous species of group c. One can hardly know what printing must prevail, since the "type designation" is here subordinated to a "group" subdivision and typification.

Herrmannsen's designation (1847) of *L. pennsylvanica* is for *Lucina* Bruguière and *Lucina* Schumacher. But the same year, Gray has given the first valid designation I have been able to find, of *L. jamaicensis* as the type of *Lucina* Bruguière, while *Lucina* Schumacher is clearly separated as a synonym, having another type (*pennsylvanica*). This selection is not only the first unquestionable one, but it is in accordance with Lamarck's first implicit selection (1801), quoted above and confirmed by Children's designation for *Lucina* Lamarck, 1801, which therefore is a synonym of Bruguière's genus.

Gray's selection has been followed by subsequent best authors, like Stoliczka (1871) and Meek (1876) and has been disregarded only when opinions favoring the retention of "*Venus edentula*" by "monotypy" have been expressed. This "monotypy" referring to Lamarck's work of 1799, now rejected for type-designations, and both Schmidt's and Anton's choices proving to be questionable, *Lucina jamaicensis* must be accepted as the type of *Lucina* Bruguière, as designated by Gray, 1847.

It is interesting to point out that the former Rules—now rejected but followed during many years by well-known specialists—would have led to the same conclusion, if the type had to be chosen "by elimination"; *L. edentula* being then rejected for inappropriateness, and *L. pennsylvanica* as excluded from the "Lucines" by Roissy, *L. jamaicensis*, first and single species cited in 1801, would have been yet the only one to be validly available.

As in any manner, and in total accordance with the present Rules, *L. jamaicensis* is the type of *Lucina* Bruguière—unless we accept arbitrarily another designation among the prior ones, which prove all to be strongly questionable, it is here proposed that *Lucina*, with *jamaicensis* as its type, shall be soon placed in the "Official List of Generic Names", this having the advantage of definitely saving the well-known *Linga*, which is available for the *pennsylvanica* group, and of rejecting in synonymy the vernacular *Phacoïdes*, generally used for designation of any lucinid that can not receive an exact generic assignment.

PHACOÏDES

As often pointed out, *Phacoïdes* "Blainville, 1825" (Dict. Sci. Nat. **32:** 334) is only a vernacular name[6]: "Les Lucines Phacoïdes" having no status. *L. jamaicensis* is cited under it as an example.

The word *Phacoïdes* is found first in Agassiz (Nom. Zool. Moll. **2:** 67) in 1845 as a name without species, being merely a quotation from Blainville. Its second use is by Gray, 1847 (Proc. Zool. Soc. London: 195) in the synonymy of Lucina, of which *L. jamaicensis* is designated as the type. Its third use is by H. and A. Adams, 1858 (Gen. Rec. Moll. **1:** 467), also as a synonym of *Lucina* Bruguière, of which *L. jamaicensis* is given as an example.

Eames (*op. cit.*), having selected *L. pennsylvanica* as the type of *Lucina*, thinks that *Phacoïdes* (Blainville) H. and A. Adams can be accepted as "the first valid use of this name" with *L. jamaicensis* as monotype. But it is not the first valid use at all: despite the fact that Agassiz first used *Phacoïdes* as a genus without species, Gray, prior to H. and A. Adams, used it also as a synonym of *Lucina*, and with a type-designa-

[6] See Iredale (1915), Stewart (1930), Eames (1951).

tion for the latter not only an example. I cannot understand how the citation of *jamaicensis* as example only for *Lucina* can be applied as a monotype for *Phacoïdes:* such a selection after Adams cannot be accepted.

But as Gray himself has only quoted *Phacoïdes* in synonymy of a nonmonotypical genus, his type-designation for *Lucina* is not, *ipso facto,* available for *Phacoïdes* as monotype. *Phacoïdes* itself cannot be monotypical, Blainville having written "Les Lucines Phacoïdes."

Agassiz, Gray, and Adams have all only quoted the word "Phacoïdes" after Blainville in their papers, without species referred to this name; it is not even certain that they have used it as = Latinized. One cannot affirm that they intended to quote a Latin genus *Phacoïdes,* instead of only a French word, transferred from an adjective to a substantive: (Les) Phacoides. So that "*Phacoïdes*" must be rejected as vernacular in any manner, no Latin use of it prior to *Dentilucina* Fischer, 1887, being demonstrated by its connection to a specific Latin name. Neither Gray nor Adams have referred to "*Phacoïdes jamaicensis*" but only listed a vernacular name in a synonymy; and on page 194 of his paper, Gray similarly quoted as a synonym of a Latin generic name (*Agaria*) the "Cardito-Cardite" of Blainville under its vernacular form, not *Cardiocardita.*

If a valid and unquestionable designation of *L. pennsylvanica,* or of any species other than *L. jamaicensis* is found as the type of *Lucina* Bruguière prior to Gray's selection, *Dentilucina* would then replace *Lucina* for the *jamaicensis* group, and not *Phacoïdes,* as several authors have already noted.

Before studying other names, it is interesting to point out that a case almost similar to that of *Cardita* and *Lucina* has been ruled recently by the International Commission in the same sense. *Arca Noae* Linné has been officially established as the type of *Arca* Linné, 1758, following Gray's selection, instead of Schmidt's or Schumacher's prior, but questionable, designations. But in the case of *Arca,* a suspension of the Rules was necessary, because Schumacher's designation was only somewhat questionable, according to Reinhart (1935) but not to most authors. In the case of *Cardita* and of *Lucina* such a suspension would not be needed, all designations prior to Gray's being evidently erroneous in their references, and not concerning Bruguière's work.

DIPLODONTA AND TARAS

Diplodonta Bronn, 1831 (Ergebn. Nat. Reisen **2:** 484), is a well-known ungulinid, with *Venus lupinus* Brocchi (non Linné) = *Tellina rotundata* Montagu var. *aequilateralis* Cerulli (*Diplodonta*) as its type, designated by Herrmannsen and by Gray, both in 1847. There is a prior *Mysia* Leach in Brown, 1827, with the same species as monotype, but invalidated by *Mysia* Lamarck, 1818.

There is also *Taras* Risso, 1826, type (monotype) *T. antiquatus* Risso (Hist. Nat. Eur. Mérid. **4:** 344) from the Pliocene beds of La Trinité, near Nice. Stewart (*op. cit.*) thinks that this species is identical with the Recent *Diplodonta rotundata* (Mtg.) and therefore that *Taras* must have priority over *Diplodonta.*

Taras antiquatus, only figured by Risso, looks, in fact, like *Diplodonta rotundata.* Dall had interpreted the diagnosis of its hinge as that of a specimen of this species on which the left posterior cardinal was broken off, and the right posterior confused with a lateral tooth. But Cerulli (1909) and Lamy (1920) treated *Taras* as a doubtful name, and Eames (1951) also has recently listed it as a *nomen dubium.*

Stewart was of the opinion that "it should not be difficult to identify *T. antiquatus* at Trinité." However, in this locality as well as on the Mediterranean coast, another quite different species can be found which is externally and internally very similar to *Diplodonta rotundata.* Modern authors seem not to have realized that *Taras antiquatus* was, perhaps, a specimen of *Mysia undata* (Pennant), also known as *Lucinopsis undata.*

It is a venerid, with a deep pallial sinus, and a third narrow, cardinal tooth, just in front of the nymph (perhaps the "right posterior" discussed by Dall): however, both the shape and hinge of *Mysia undata* recall strongly *Diplodonta rotundata,* especially when the specimens are worn. Both species are not uncommon in the recent fauna.

As I have failed to find specimens labelled *Taras antiquatus* in the Risso material preserved in the Paris Museum, I am of the opinion that the name must be rejected as a *nomen dubium,* since it may be that Risso has described a *Mysia,* as well as a *Diplodonta,* and since no type material can be studied.

I have noticed, when examining Risso's shells, that their original labels have, sometimes, been

misplaced and several specimens apparently misidentified. If some day shells labelled "*Taras antiquatus*" should be discovered (and probably not, then, in the Paris Museum where I have failed to find them and where they have not been listed), it would be yet necessary to verify with much care if they are really the true *Taras* Risso has studied. So that there is only a very slight possibility that *Taras* can have status of any kind, and *Diplodonta*, therefore, can be confidently used.

I have failed to find, among numerous carditid and lucinid units, other unsettled generic terms of the importance of those here discussed; so that I think it was of interest to study them in full, as I have tried to do it in the present paper. It is very satisfactory to see that a strict application of the International Rules has succeeded in saving well-known names. Wise decisions of the Commission having already placed several usual genera in the Official List, I hope that *Cardita*, *Lucina*, and *Diplodonta*, at least, may obtain the same favor.

BOTANY.—*New species of grasses from Venezuela.* Agnes Chase, Department of Botany, U. S. National Museum.

The genus *Thrasya* H.B.K., Nov. Gen. et Sp. **1**: 120. *pl. 39*. 1816, was based on a single species, *T. paspaloides* H.B.K., collected by Humboldt and Bonpland on the island of Panamuna, in the Orinoco between Atures and San Borja, Venezuela. There are now 12 known species of *Thrasya*, ranging from Costa Rica to Brazil and Bolivia, four of them from Venezuela, to which a fifth is now proposed. In this genus the sterile lemma is mostly firm, thinner and sulcate down the middle and usually splitting to the base, the margins of the split rolling inward. In the species here described the sterile lemma partly splits tardily or not at all, as in *T. campylostachya* (Hack.) Chase and *T. hitchcockii* Chase, and the plant somewhat resembles *Paspalum pilosum* Lam.

Thrasya venezuelana Chase
Fig. 1

Planta perennis; culmi 50 cm alti, erecti, dense hispidi, nodis inferioribus ramosi; vaginae et laminae appresso-hispidae; ligula minuta; laminae 15–20 cm longae, 6–8 mm latae; racemi 1–3, arcuati, 8–13 cm longi, rhachi 2 mm lata, marginibus longe hispidis; spiculae crebrae, 4 mm longae, 2 mm latae, dense hispidae; gluma prima obsoleta; gluma secunda et lemma sterile subaequalia, 3-nervia, lemmate sterili sulcato non vel tarde fisso; fructus 3.5 mm longus, 1.5 mm latus, marginibus lemmatos et paleae appresso-pubescentibus.

Perennial, in small tufts; culms 50 cm tall, erect, appressed-hispid, branching from the lower nodes, the lower internodes 4–5 cm long, the nodes densely hispid; branches erect, the prophylla prominent, thin, to 5–6 cm long; foliage conspicuously appressed-hispid; sheaths exceeding the internodes; ligule a brown membrane 0.5 mm long; blades rather thick, 15–20 cm long, 6–8 mm wide, about as wide at the base as the summit of the sheath, folded and flexuous in age; racemes on slender erect peduncles, 1–3 from the upper sheaths, the racemes strongly arcuate, 8–13 cm long, the rachis narrowly winged, 2 mm wide, appressed-pubescent, the margins long-hispid; spikelets crowded, 4 mm long, 2 mm wide, rather turgid; first glume obsolete; second glume and sterile lemma 3-nerved, densely hispid with pale hairs, the glume slightly shorter than the lemma, the lemma sulcate, not or tardily partly splitting, its palea of equal length, with firm minutely pubescent margins, enclosing 3 rudimentary stamens; fruit 3.5 mm long, 1.5 mm wide, subacute; lemma and palea minutely papillose-striate, the margins of both sparsely appressed-pubescent.

Type in the U. S. National Herbarium, no. 1762139, collected on dry stony open slope, among low brush, Sabanas de Cotiza, Distrito Federal, Venezuela, March 11, 1940, by Agnes Chase, no. 12407. Part of the type is in the herbarium of the Instituto de Botánica, Caracas, Venezuela.

Ichnanthus tamayonis Chase
Fig. 2

Planta annua; culmi ramosi decumbentes, 65–90 cm longi, gracillimi, angulati, pilosi, internodiis inferioribus brevibus, nodis tumidis, saepe radicosis, superioribus ad 15 cm longis; vaginae